Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1 (Currently Amended): A method of analyzing vocal signals of a speaker, comprising: ~~(λ), characterized in that~~

using a probability density representing ~~the~~ resemblances between a vocal representation of the speaker ~~(λ)~~ in a predetermined model and a predetermined set of vocal representations of a number E of reference speakers in said predetermined model; ~~is used,~~ and

analyzing the probability density ~~is analyzed so as~~ to deduce therefrom information on the vocal signals.

2. (Currently Amended): The method ~~as claimed in~~ of claim 1, ~~characterized in that~~ wherein said predetermined model is an absolute model ~~(GMM),~~ of dimension D, using a mixture of M Gaussians, ~~is taken as predetermined model, for~~ in which the speaker ~~(λ)~~ is represented by a set of parameters comprising weighting coefficients ~~(α_i, i = 1 to M)~~ for the mixture of Gaussians in said absolute model ~~(GMM)~~, mean vectors ~~(μ_i, i = 1 to M)~~ of dimension D and covariance matrices ~~(Σi, i = 1 to M)~~ of dimension D×D.

3. (Currently Amended): The method ~~as claimed in~~ of claim 2, ~~characterized in that~~ further comprising:

representing the probability density of the resemblances between the representation of said vocal signals of the speaker ~~(λ)~~ and the predetermined set of vocal representations of the reference speakers ~~is represented~~ by a Gaussian distribution ~~($\psi(\mu^{\lambda},\Sigma^{\lambda})$)~~ of mean vector ~~($\mu^{\lambda}$)~~ of dimension E and of covariance matrix ~~(Σ^{λ})~~ of dimension E×E, said mean vector and covariance matrix being ~~which are~~ estimated in a ~~the~~ space of resemblances to the predetermined set of E reference speakers.

4. (Currently Amended): The method ~~as claimed in~~ of claim 3, wherein ~~characterized in that the resemblance ($\psi(\mu^{\lambda},\Sigma^{\lambda})$) of the speaker ($\lambda$) with respect to the E reference speakers is defined, for which speaker (λ)~~ there are N_{λ} segments of vocal signals for the speaker, represented by N_{λ} vectors of the space of resemblances with respect to the predetermined set of E reference speakers, wherein the resemblance of the speaker with respect to the E reference speakers is defined as a function of a mean vector (μ^{λ}) of dimension E and of a covariance matrix (Σ^{λ}) of the resemblances of the speaker ~~(λ)~~ with respect to the E reference speakers.

5. (Currently Amended): The method ~~as claimed in~~ of claim 4, ~~characterized in that~~ further comprising:

introducing a priori information ~~is further introduced~~ into the probability densities of the resemblances ~~($\psi(\mu^{\lambda},\Sigma^{\lambda})$)~~ with respect to the E reference speakers.

6. (Currently Amended): The method ~~as claimed in~~ of claim 5, wherein ~~characterized in that~~ the covariance matrix of the speaker ~~(λ)~~ is independent of said speaker ($\tilde{\Sigma}^{\lambda} = \tilde{\Sigma}$).

7. (Currently Amended): A system for the analysis of vocal signals of a speaker ~~(λ)~~, comprising:

databases for storing ~~in which~~ vocal signals of a predetermined set of speakers and ~~their associated~~ vocal representations associated therewith in a predetermined model by mixing of Gaussians ~~are stored~~, as well as databases of audio archives; and ~~,~~ ~~characterized in that it comprises~~

means for analyzing the vocal signals using a vector representation of the resemblances between the vocal representation of the speaker ~~(λ)~~ and the predetermined set of vocal representations of E reference speakers.

8. (Currently Amended): The system ~~as claimed in~~ of claim 7, ~~characterized in that~~ the databases further ~~store~~ storing parameters of the vocal signals analysis performed by said means for analyzing.

9. (Currently Amended): The ~~use of a~~ method ~~as claimed in~~ of ~~any one of claims 1 to 6, for an~~ claim 1, applied to indexing of audio documents.

10. (Currently Amended): The ~~use of a~~ method ~~as claimed in~~ of ~~any one of claims 1 to 6, for an~~ claim 1, applied to identification of a speaker.

11. (Currently Amended): The ~~use of a~~ method ~~as claimed in~~ of ~~any one of claims 1 to 6, for a~~ claim 1, applied to verification of a speaker.